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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,008	06/29/2001	Shinichi Hara	Q65241	5699

7590 04/25/2003

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2100 Pennsylvania Avenue, N.W.
Washington, DC 20037

EXAMINER

DOUGLAS, LISA ANN

ART UNIT	PAPER NUMBER
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3752

DATE MAILED: 04/25/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/894,008

Applicant(s)

HARA, SHINICHI

Examiner

Lisa A. Douglas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 22-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-13 and 15-21 is/are rejected.
- 7) ☒ Claim(s) 7, 14 and 27-36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I in Paper No. 5 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 8-13, 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al.

Ozawa et al. shows a cleaning nozzle an ejection nozzle portion, minimum diameter 60, gas eject port 58, another inclined portion, cleaning liquid ejection port. Ozawa et al. lacks a gas ejected at a speed higher than that of a cleaning liquid from the cleaning liquid ejection port to transform the cleaning liquid into droplets and to accelerate them. It would have been obvious to one of ordinary skill at the time the invention was made to modify the Ozawa et al. to have a gas ejected at a speed higher than that of a cleaning liquid from the cleaning liquid ejection port to transform the cleaning liquid into droplets and to accelerate them since it has been held that discovering the optimum value of a result effective

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variable involves routine skill in the art. In regard to claims 5, 12, 19 the ratio between a cross-sectional area of the gas ejection port at its downstream open end and a cross-sectional area of the minimum diameter portion is set to 1: to 1:1.3, and in regard to claims 6, 13, 20 the ratio between a cross-sectional area of the gas ejection port at its downstream open end and a cross-sectional area of the minimum diameter portion is set to 1: to 1:1.3; it would have been obvious to one of ordinary skill at the time the invention was made to modify the Ozawa et al. to have the ratio between a cross-sectional area of the gas ejection port at its downstream open end and a cross-sectional area of the minimum diameter portion is set to 1: to 1:1.3 and to have the ratio between a cross-sectional area of the gas ejection port at its downstream open end and a cross-sectional area of the minimum diameter portion is set to 1: to 1:1.3 since it has been held that discovering the optimum value of a result effective variable involves routine skill in the art.

Allowable Subject Matter

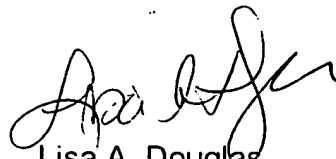
4. Claims 7, 14, 21, and 27-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa A. Douglas whose telephone number is (703) 308-0265. The examiner can normally be reached on Mon-Tues.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mar can be reached on (703) 308-2087. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



Lisa A. Douglas
Primary Examiner
Art Unit 3752

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April 22, 2003